

What is claimed is:

1. A high-density recording medium, comprising:

a burst cutting area; and

a data area including an address unit,

5 wherein additional information is recorded on at least one of the burst cutting area and the address unit, while the additional information being used to control a recording or reproduction of the recording medium.

10 2. The high-density recording medium according to claim 1, wherein the recording medium is a BD-RE (Blu-ray Disc Rewritable) or a BD-ROM.

3. The high-density recording medium according to claim 1,
15 wherein the additional information is recorded in a particular information field included in a data unit of the burst cutting area.

4. The high-density recording medium according to claim 3,
wherein the particular information field is a first information field
20 included in the data unit.

5. The high-density recording medium according to claim 1,
wherein the additional information is repeatedly recorded in
information fields included in a data unit of the burst cutting area.

25 6. The high-density recording medium according to claim 1, wherein the additional information is recorded in a particular address

field included in an address unit of a predetermined size.

7. The high-density recording medium according to claim 6,
wherein the address unit has a size of 16 addresses x 9 rows (bytes),
5 and the particular address field is a 1-byte address field included
in the address unit while corresponding to a row number of '4' and
an address number of 'S' ($AF_{4,S}$ ($S = 0, 1, \dots, 15$)).

8. The high-density recording medium according to claim 1,
10 wherein the additional information recorded in the burst cutting area
includes at least one of medium reflectivity information, medium layer
information, medium type information, and application indicator
information.

15 9. The high-density recording medium according to claim 8,
wherein the additional information is identified without requiring
any separate decoding operation.

10. The high-density recording medium according to claim 8,
20 wherein the medium layer information represents the number of layers
included in the recording medium.

11. The high-density recording medium according to claim 1,
wherein the additional information recorded in the address unit
25 includes at least one of medium reflectivity information, zone type
information, data type information, medium type information, and
layer information.

12. The high-density recording medium according to claim 11,
wherein the zone type information represents a current position when
a data recording or reproducing operation is carried out, the current
5 position corresponding to a data zone, an inner zone, or an outer
zone.

13. The high-density recording medium according to claim 11,
wherein the data type information represents the type of associated
10 data, the associated data being read-only data, recordable data or
rewritable data.

14. The high-density recording medium according to claim 8 or
11, wherein the medium reflectivity information is required for an
15 optical power control and an automatic gain control when a data
recording or reproducing operation is carried out.

15. The high-density recording medium according to claim 8 to
11, wherein the medium type information represents the type of an
20 optical disc, the optical disc being a BD-ROM, a BD-R (BD-Recordable),
or BD-RE (Blu-ray Disc Rewritable).

16. The high-density recording medium according to claim 11,
wherein the layer information is information representing the number
25 of layers included in the recording medium or information defining
a current layer of the recording medium.

17. The high-density recording medium according to claim 1, wherein the additional information is recorded in addition to management data located at a leading portion of a data area on the recording medium.

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18. A recording/reproducing method for a high-density optical disc, comprising the steps of:

identifying information recorded in a particular information field included in a data unit read from a burst cutting area of the optical disc or in a particular address field included in an address unit read from the optical disc; and

controlling a data recording or reproducing operation, based on the identified information.

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19. The recording/reproducing method according to claim 18, wherein the particular information field is recorded with at least one of disc reflectivity information, disc layer information, disc type information, and application indicator information.

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20. The recording/reproducing method according to claim 18, wherein the particular address field is recorded with at least one of disc reflectivity information, zone type information, data type information, disc type information, and layer information.

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21. The recording/reproducing method according to claim 19, wherein the disc layer information represents the number of layers included in the optical disc.

22. The recording/reproducing method according to claim 19 or
20, wherein the disc type information represents the type of the
optical disc, the optical disc being a BD-ROM, a BD-R (BD-Recordable),
5 or a BD-RE (Blu-ray Disc Rewritable).

23. The recording/reproducing method according to claim 19 or
20, wherein the disc reflectivity information is required for an
optical power control and an automatic gain control when the data
10 recording or reproducing operation is carried out.

24. The recording/reproducing method according to claim 18,
wherein the information recorded in the particular information field
is preferentially read when the optical disc is loaded in an optical
15 disc apparatus.

25. The recording/reproducing method according to claim 18,
wherein the information recorded in the particular address field is
read during the data recording or reproducing operation.
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26. A recording/reproducing method for a high-density recording
medium, comprising the steps of:

identifying information recorded in a particular information
field included in a data unit read from a burst cutting area of the
25 recording medium;

controlling a data recording or reproducing operation, based
on the identified information; and

identifying information included in control data recorded at a leading portion of a data area on the recording medium, and performing the data recording or reproducing operation, based on the information identified from the control data.

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27. A recording/reproducing method for a high-density recording medium, comprising the steps of:

(A) identifying information included in control data recorded at a data area on the recording medium;

10 (B) identifying information recorded in a particular address field of an address unit read from the recording medium, based on the information identified at the step (A); and

(C) controlling a data recording or reproducing operation, based on the information identified at the step (B).

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28. The recording/reproducing method according to claim 27, wherein the information identified at the step (A) and the information identified at the step (B) include at least one identical piece of information.